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A Semiotic Ontology of the Commodity

The commodity is analyzed from a semiotic stance. Rather than systematically unfold a subject-object dichotomy (via Hegel's history as dialectic), it systematically deploys a sign-object-interpretant trichotomy (via Peirce's logic as semiotic). Rather than conflate economic value and linguistic meaning through the lens of Saussure's semiology, it uses Peirce's semiotic to provide a theory of meaning that is general enough to include commodities and utterances as distinct species. Rather than relegate utility and measure to the work of history (as per the opening pages of Marx's Capital*), these are treated as essential aspects of political economy. And rather than focus on canonical 19th-century commodities (such as cotton, iron, and cloth), the analysis is designed to capture salient features of modern immaterial commodities (such as affect, speech acts, and social relations).* [commodity, semiotics, value, measurement, labor]

Since the signing of peace accords in 1996, bringing to a ceremonial end several decades of civil war, Guatemala has seen hundreds of nongovernmental organizations spring up, attempting to meet the challenges of post–civil war society: overpopulation, deforestation, illiteracy, damaged infrastructure, nonexistent democracy, and—as evinced in the explosion of vigilante justice in rural villages—a growing sense not only of state illegitimacy but of impotence.

One of these organizations is Project Eco-Quetzal, founded in 1990 by German ecologists with the goal of protecting the numerous bird species that reside in Guatemala's remaining cloud forests. Since the peace accords, the project has grown and diversified considerably, its goals now including the promotion of alternative crafts, biomonitoring, intensive farming, soil conservation, sustainable development, disaster preparedness, literacy, health care, and conflict resolution. In other words, as it expands and transforms, its functions extend into those domains where the state cannot reach—a sphere that continually seems to grow rather than shrink.

At the center of the project's interventions is the village of Chicacnab, located in the department of Alta Verapz.[1] As per the project's initial goals, given the village's relatively high altitude and remote location, it provides the perfect setting for the existence of cloud forest. And such a cloud forest provides the perfect setting for a high density of endangered avifauna.

In 2000, there were some 80 families living in Chicacnab, with a total population of around 600 people. While all villagers engage in corn-based agriculture, very few villagers have enough land to fulfill all of their subsistence needs. For this reason, many women in the village are dedicated to chicken husbandry, most men in the village engage in seasonal labor on plantations (up to five months a year in some cases), and many families engage in itinerant trade (women weaving baskets and sewing textiles for the men to sell).

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Dedicated to preserving the cloud-forest that surrounds this community from "slash-and-burn" agriculture, Project Eco-Quetzal has initiated an ecotourism project in order to provide alternative sources of income to community members. In its efforts to promote global biodiversity and protect local key-species, the main strategy of this project is to add value to local products (by marketing them internationally) and to add value-creating ability to local villagers (by educating and training them to recognize and produce such value), so that community members will be motivated in a way that is beneficial for both themselves and the cloud-forest.

Implicit in this strategy is a widespread theory of human motivation, one which reduces social interaction to individual action, individual action to purposeful behavior, purposeful behavior to strategic decisions, and strategic decisions to a means-end calculus based on knowledge and value. In other words, underlying this NGO's agenda is a neoliberal worldview—one which fosters market-based social relations in order to promote individual enterprise as the pervasive mode of social conduct.

Having sketched the genealogy of ecotourism in the village of Chicacnab, and its relation to neoliberalism in a global context, it is worthwhile examining its actual techniques. When Peace Corps volunteers began reassessing the ecotourism program in 1997, they noted that a number of elements had to be in place for the program to run smoothly: a system of communication between the village and the project; a village-based organization in charge of ecotourism; a system of rotation for tourist-taking villagers; courses informing villagers of the desires and needs of tourists; courses training villagers to better host and guide tourists; and meetings deciding and articulating the responsibilities of the village and project. To carry out such a relatively encompassing regime of discipline, meetings were held in Chicacnab (almost eight times per year) in which villagers and project members engaged in day-long training sessions.

Most meetings focused on capacitating villagers to host and guide tourists, and imposing finer and finer standards upon this capacitation. For example, during one meeting the Peace Corps volunteers presented information to the villagers (in Spanish, and then translated into Q'eqchi') about the desires and habits of tourists. The volunteers explained where the tourists come from, what they wear, and that they may not speak Spanish. They explained that the tourists have no cloud forests in their own countries, nor the same kinds of plants and animals. They explained that tourists come to the village for a variety of reasons, such as exploration, photography, observation of the wilderness, and education about medicinal plants. They explained that the tourists want to learn any information and history that villagers have about the forest and its inhabitants. And they explained that tourists also come for culture: they want to know about local life and customs, and they want to see villagers working in the fields and kitchen, to hear and learn words from the Q'eqchi' language, and to participate in ceremonies and celebrations. In this way, the volunteers spent much time teaching villagers about tourist culture, couched as desires and habits *qua* rights, as it would intersect with Q'eqchi' culture, couched as service and spectacle *qua* responsibilities.

Along with this articulation of the basic desires and habits of tourists as strangers, the volunteers also stressed their more pressing needs and demands as guests. These basic needs were usually listed as material objects and housing-arrangements that villagers were required to provide as hosts: a clean place for tourists to sleep; their own bed; space without animals; candles, water, and a blanket. In addition to having such material amenities, the villagers would have to engage in certain social practices to be good hosts. For example, the volunteers explained to women how to prepare food hygienically, stressing the cleaning of utensils, the boiling of water, the cooking of food, the washing of hands, and the shooing of domestic animals from the hearth fire. And they explained to men how they must guide tourists, stressing where to pick them up, how to answer their questions, how often they should rest, how fast they should walk, and what to point out as interesting (e.g., medicinal plants, the names of local taxa, and the footprints of animals). Thus, not only were

villagers taught to recognize and accommodate the desires and habits of tourists, they were also required to have material objects and engage in social practices that would ensure the comfort, interest, and safety of tourists.

The training continued, slowly ratcheting up the standards for how villagers should coordinate their objects, actions, and utterances with tourists. Indeed, by the end of 1999, actual measurements were given for the sizes of rooms and beds, and lists were compiled for the kind, size, and quantity of required tourist amenities. One such list had the following specifications of such items: private room (minimum of 2×2 meters); large bed (2×1 meters); small table with water-container and wash basin, soap, and candle; a typical decoration; rope to hang clothing; clean toilet; place to wash; table with chair, candle, complete table setting (plates and silverware); sugar and chili served separately. If villagers had all of these items, in the right quantities and with the appropriate dimensions, they were authorized to charge 10 quetzals (about $1.50) for lodging, which was double the previous price. In this way, such upgraded standards—turning on size, number, and item—went hand in hand with higher prices.

Besides delimiting finer standards for the tourist-related material objects owned by families, the project also delimited finer standards for the social and semiotic practices involved in guiding and hosting tourists. For example, one set of standards included the following specifications for a guide: be punctual; introduce yourself; walk with tourists on trail, no more than five paces ahead of slowest tourist; wait for group to keep group together; take at least two five minute breaks; talk with tourists four times during the hike (how are you, where are you from, do you have any questions, do you like the forest); show and explain points of interest (agricultural practices, life and culture in forest); and even "Explain how the families' lives are different with ecotourism, other changes that have resulted from involvement with PEQ, and why these changes are important." In this way, besides having to take into account pace-length, pause duration, and speech act coordination, a guide had to be able to express the general effects and importance of the program itself: a trailside discourse on the manner in which ecotourism has positively affected local modes of village life. In other words, a villager was required to perform an internalization of the underlying ethics and projected outcome of the project's intervention.

In short, the impulse, if not achievement, of the project's neoliberal intervention was to coordinate villagers' and tourists' interactions, calibrate these modes of coordination with cash, and thereby conduct local economic goals, such as the earning of money, toward global ethical ends, such as the preservation of biodiversity.[2] In the context of such interventions, it may be argued that *the anthropology of new forms of liberalism must focus on not only the consequences of commoditization, but also its conditions: the quantification and standardization of various domains of social life, and the subsequent commensuration of these quantified and standardized domains*. One needs, then, a critical political economy that is general enough to account for the commoditization of what seems to be the least material, commensurable, and alienable of processes: *semiosis and sociality in situ*.

As scholars who specialize in the context-dependent and qualitative, how then are we to understand processes whose aim is the imposition of context-independent quantity?

As scholars who have analyzed the linguistic and cultural mediation of domains ranging from color and kinship to space and time, from taxonomy and politeness to affect and mind, how are we to understand the social and semiotic mediation of quantity?

How shall we define meaning so as to encompass the propositional content of an utterance and the function of an instrument, the value of an identity and the price of a commodity?

Where are we to find a theory that can account for the commoditization of semiosis in the same terms it accounts for the semiotics of commodities?

How then to bring together Marx's dialectic and Peirce's semiotic, economic value and linguistic meaning, the stakes of political economy and the techniques of linguistic anthropology, while avoiding the well-known Saussurean traps?

Overview of Argument

In their analysis of the commodity in modern capitalist society, and cattle among the Nuer, Marx and Evans-Pritchard were able to disclose relatively coherent ensembles of meaningful practices from what at first appear to be simple objects. Around such 'objects' were unfolded group-relative modes of speaking and thinking, categorizing and evaluating, experiencing and behaving. And so pervasive were these objects that such practices constituted the figure and ground of social life: space and time, substance and form, quality and quantity, ontology and cosmology (Kockelman in press a). Part of the genius of Marx and Evans-Pritchard, then, was to theorize both quotidian objects and metaphysical concepts in terms of social relations, semiotic practices, and material processes.

For example, Marx's *ontology of the commodity* consists of the repeated embedding of a binary distinction into itself (1967:44–48). As may be seen from Figure 1, the commodity, as the top-most node, breaks down into *use-value* (or the product of concrete labor) and *value* (or the product of abstract labor). Going down the left-hand side of each branch first (and then working toward the right), use-value breaks down into *quality* (or some type of utility: wheat or water) and *quantity* (or some type of measure, which usually consists of both a number and a unit: three bushels or two cups). Quality breaks down into *means* (or how the quality is employed) and *ends* (or why the quality is employed). And means breaks down into *direct* (or means of subsistence: shoes and potatoes) and *indirect* (or means of production: iron and leather). Back up to the next branching node, ends breaks down into *necessity* (or items produced to fill the requirements of one's stomach) and *luxury* (or items produced to fill the requirements of one's fancy). Back up to the next branching node, quantity breaks down into *nature* (or units of measure that are grounded in relatively motivated distinctions: foot) and *convention* (or units of measure that are grounded in relatively arbitrary distinctions: meter). And back up to the next branching mode, value breaks down into *essence* (or value per se) and *appearance* (or various forms of value in the guise of exchange-value: other commodities that could be exchanged for this

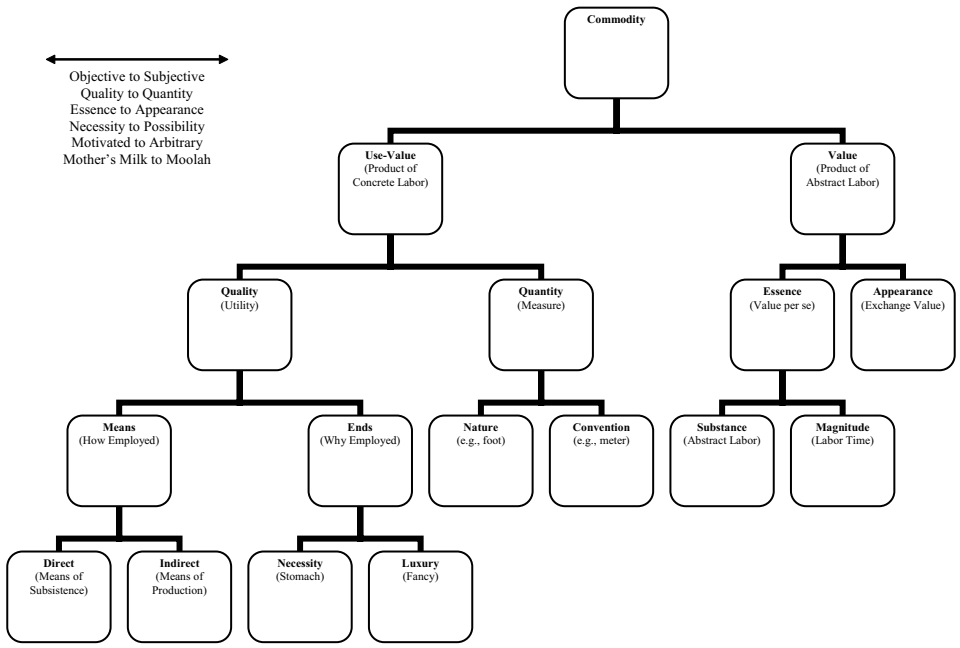


Figure 1
Marx's ontology of the commodity.

one). And essence breaks down into *substance* (or socially necessary labor) and *magnitude* (or duration of socially necessary labor time).

As one moves from the left-hand side to the right-hand side of Figure 1, one moves from use-value to value, quality to quantity, essence to appearance, means to ends, nature to convention, direct to indirect, necessity to luxury, and substance to magnitude. And, more generally, one moves from 'objective' attributes to 'subjective' attributes—from mother's milk to moolah. Indeed, any commodity in a capitalist economy may be described using this system of categories. For example, *three cobs of corn* (say, as a serving of dinner), might find the following placement: it is a direct means; it satisfies a necessary end; it comes in natural units; it took one hour to produce; and it may be exchanged for 12 pats of butter (or 10 cents). Whereas *five ounces of gold* (say, for making a necklace) might find the following placement: it is an indirect means; it satisfies a luxurious end; it comes in conventional units; it took 100 hours to produce; and it may be exchanged for 12,000 pats of butter (or 100 dollars). In short, this ontology may be used to delimit the salient properties of any commodity circulating in a capitalist economy—at least in 19th-century Industrial England, which was the ethnographic and historical context which Marx set out to understand.

Marx's understanding of the commodity, then, is grounded in a dualistic ontology, whose top-most branch (use-value versus value) is grounded in what he called the *pivot* of political economy: use-value is the product of concrete labor, a trans-historic relation between man and nature; and value is the product of abstract labor, a historically-specific relation between man and man (1967:48–53). And while the left-hand side of Figure 1 is more elaborated than the right-hand side, *Capital* only devotes a few pages to use-value, whereas it devotes three (or four) volumes to value. Indeed, on the first page of Volume I, Marx relegates "the various uses of things," as well as "the establishment of socially-recognized standards of measure for the quantities of these useful objects," to "the work of history" (1967:43). In other words, not withstanding how helpful Marx's system is for capturing various properties of use-value, he casts both utility and measure outside the purview of political economy.

While Marx's ontology of the commodity has its roots in Aristotle's distinction between quality and quantity (use-value and exchange-value), much of its analytic power rests in its Hegelian underpinnings (see Aristotle 2001a; Meikle 1995). And while a subject-object dichotomy may be philosophically hamstrung, the repeated embedding—or dialectical unfolding—of such a dichotomy into itself serves to overcome such a dichotomy. (Indeed, these binary pairings should be understood as *relative* notions: best imagined as poles of a continuum rather than positions in an opposition.) Moreover, it may be argued that Marx's critique of capital is immanent to capital, and hence his ontology is immanent to its object: one must use the categories of bourgeois society to analyze and critique bourgeois society. That is, the commodity is at once the object to be investigated and the method of investigation. In this way, an ontology ultimately grounded in a subject-object dichotomy is one of the ideational reflexes of 19th-century capital; and must therefore be used as a theoretical tool for interpreting that form of capitalism. Indeed, Postone (1993), who has offered some of the most sophisticated readings of Marx along these lines, has argued that *Capital* may be understood as a critical ethnography of bourgeois society.

While this essay is sympathetic to such arguments, what follows is an attempt to deploy four slightly different tactics. First, rather than ground the commodity in a dialectic, it grounds the commodity in a semiotic. And hence rather than systemically unfold a subject-object dichotomy, it systemically deploys a *sign-object-interpretant* trichotomy. Second, the focus is overwhelmingly devoted to the left-hand side of Figure 1, or use-value proper. Thus, rather than relegating utility and measure to the work of history, these categories are here treated as essential aspects of political economy. Third, the focus shifts from canonical 19th-century commodities (such as cotton, iron, and cloth), to more immaterial commodities (such as affect, speech acts, and social relations). In other words, insofar as the commodities being described are increasingly semiotic in nature (as exemplified in the Mayan village),

this essay introduces a set of descriptive categories for understanding political economy that are themselves grounded in semiosis. Finally, unlike other attempts to merge economic value and linguistic meaning, the theory of semiosis offered here is grounded in Peirce's categories (or 'semiotics') rather than Saussure's categories (or 'semiology').

Semiotic Prerequisites

Before reanalyzing the commodity, several terms from semiotics should be defined. A *sign* is anything that stands for something else. An *object* is whatever a sign stands for. And an *interpretant* is whatever a sign creates insofar as it stands for an object. Any *semiotic process* relates these three components in the following way: a sign stands for its object on the one hand, and its interpretant on the other, in such a way as to make the interpretant stand in relation to the object corresponding to its own relation to the object (Kockelman 2005; and see Peirce 1966:8.332). The logic of this *relation between relations* is shown in Figure 2.

For example, *joint-attention* is a semiotic process. In particular, a child turning to observe what her father is observing, or turning to look at where her mother is pointing, involves an interpretant (the child's change of attention), an object (what the parent is attending to, or pointing toward), and a sign (the parent's direction of attention, or gesture that directs attention). As exemplified by joint-attention, this formal definition of a semiotic process provides a useful description of *inter-subjectivity*: a self (or 'subject') stands in relation to an other (or 'object') on the one hand, and an alter (or 'another subject') on the other, in such a way as to make the alter stand in relation to the other in a way that corresponds with the self's relation to the other. As Mead (1934) famously noted, any *interaction* is a semiotic process. For example, if I pull back my fist (first phase of an action, or the sign), you duck (reaction, or the interpretant) insofar as my next move (second phase of action, or the object) would be to punch you. Generalizing interaction, the *pair-part structures* of everyday interaction—the fact that questions are usually followed by answers, offers by acceptances, commands by undertakings, assessments by agreements, sales by purchases, and so forth—consist of semiotic processes in which two components (the sign and interpretant) are foregrounded. In particular, a type of utterance (or action) gives rise to another type of utterance (or action) insofar as it is understood to express a proposition (or purpose). Finally, of particular importance for political economy, an *instrument* is a semiotic process whose sign is an artificed entity, whose

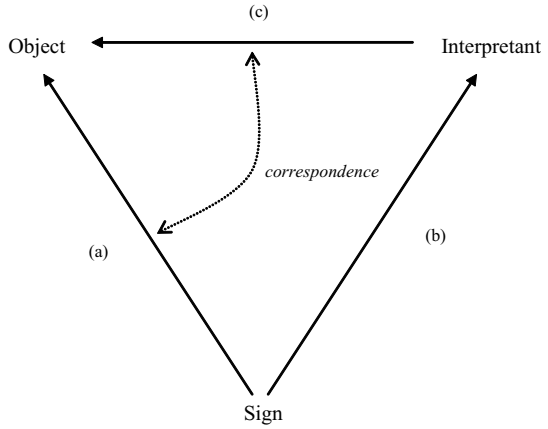


Figure 2
Semiosis as a relation between relations.
A sign stands for its object on the one hand (a) and its interpretant on the other (b) in such a way as to bring the latter into a relation to the former (c) *corresponding* to its own relation to the former (a).

object is a function, and whose key interpretant is an action that wields that entity (so far as it serves a function).[3]

Semiosis, then, involves a relation between two relations—a relation, that is, between the relation between a sign and an object and the relation between an interpretant and an object, where the second relation arises because of the first relation. In other words, meaning must be framed not in terms of a single relation (of standing for), but in terms of a relation (of correspondence) between two relations (of standing for). Such an understanding of meaning maximally contrasts with the stereotypic definition of a sign—say, the Saussurean pairing of a signifier and a signified, whether understood as internally articulated (a pairing between a sound image and a concept) or externally articulated (a pairing between a word and a thing). Indeed, the typical focus on sign-object relations (or 'signifiers' and 'signifieds'), at the expense of sign-interpretant relations, and this concomitant understanding of objects as 'objective' and interpretants as 'subjective' (if the latter are invoked at all), is one of the most fatal flaws of 20th-century semiotics.

Given the definition of semiotic process offered above, the object of a sign is really that to which all (appropriate and effective) interpretants of that sign correspondingly relate (Kockelman 2005). Objects, then, are relatively abstract entities by definition. They should not be confused with 'objects' in the Cartesian sense of *res extensa*. Nor should they be confused with the 'things' that words seem to stand for—be they entities like Saussure's ox and tree.[4] Indeed, it is best to think of the object as a *correspondence-preserving projection* from all interpretants of a sign. It may be more or less precise, and more or less consistent, as seen by the dotted portion of Figure 3.

For example, if a cat's purr is a sign, the object of that sign is a correspondence-preserving projection from the set of behaviors (or interpretants) humans may or must do (within some particular community) in the context of, and because of, a cat's purr: pick it up and pet it, stroke it under the chin, exclaim 'oh, that's so cute!', offer a sympathetic low guttural, stay seated petting it even when one needs to pee, and so on. Needless to say, humans tend to objectify such objects by glossing them in terms of physiology (say, the 'purr-organ' has been activated), emotion (say, 'she must be content'), or purpose (say, 'she wants me to continue petting her'). Similarly, saying that the object of an instrument is a function means that a function is a correspondence-preserving projection of the ensemble of behaviors (*qua* interpretants)

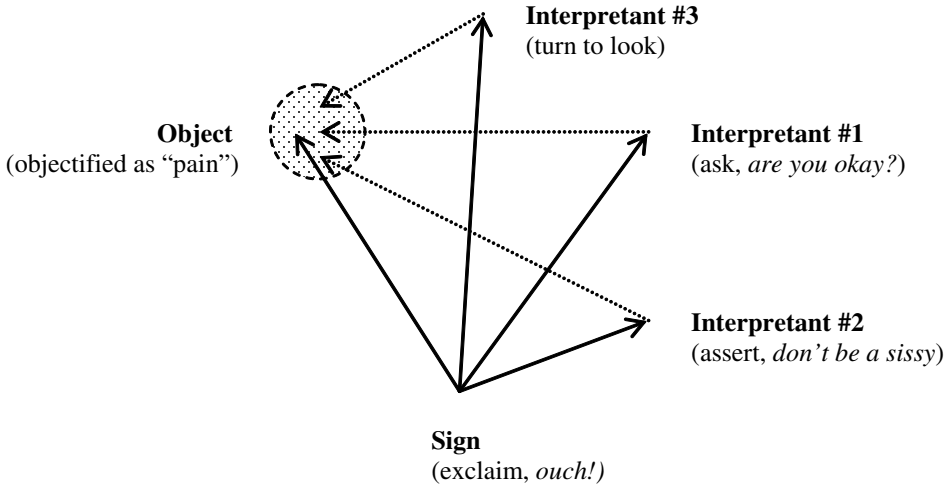


Figure 3
Object as correspondence-preserving projection.
The object of a sign is that to which all appropriate and effective interpretants of that sign correspondingly relate. It may be understood as a correspondence-preserving projection from all interpretants.

that one is (normatively) entitled or committed to doing while wielding the instrument: appropriate and effective actions one may use the instrument to undertake.

Finally, the *ground* is the relation between a sign and its object (Peirce 1955a; and see Parmentier 1994). Famously, in the case of *symbols*, this relation is arbitrary, and is usually thought to reside in 'convention.' Examples include words like 'boy' and 'run.' In the case of *indices*, this relation is based in spatiotemporal or causal contiguity. Examples include exclamations like 'ouch' and symptoms like fevers. And in the case of *icons*, this relation is based in similarity of qualities (such as shape, size, color, or texture). Examples include portraits and diagrams. For instruments, needless to say, the ground is relatively iconic and indexical. Thus, being appropriate and effective (as regimented by cultural norms) is partially determined by being feasible and efficacious (as regimented by natural causes). For example, while one *can* use a hammer as a screwdriver, it is less feasible to use a hammer as a chair; and, conversely, while one *may* use scissors or shears at a ribbon-cutting ceremony, it is not appropriate to use a switchblade. In short, instruments, existing at the boundary between iconic-indices and indexical-symbols, can be inappropriately wielded and still be efficacious, and can be feasibly wielded and still be ineffective. The key slogan of the *Bauhaus* school of design—'form follows function'—is essentially a claim that the ground of instruments, or the relation between the sign (*qua* artificed entity) and the object (*qua* function), should be maximally iconic-indexical (or motivated) and minimally symbolic (or arbitrary).

Putting all the foregoing ideas together, a set of threefold distinctions may be enumerated. First, any semiotic process has three components: sign, object, interpretant. And there are three kinds of grounds, or sign-object relations: iconicity (quality), indexicality (contiguity), and symbolism (convention).[5] These distinctions loosely map onto those found in other philosophical systems. For example, in Hegel's understanding of phenomenology, there is sense, force, and understanding. And in Kant's understanding of modality, there is possibility, actuality, and necessity. Finally, Peirce's categories of firstness, secondness, and thirdness (1955b), while notoriously difficult to define, are best understood as genus categories, which include the foregoing categories as species. In particular, firstness is to secondness is to thirdness, as sign is to object is to interpretant, as iconic is to indexical is to symbolic, as sense is to force is to understanding, and as possibility is to actuality is to necessity. Indeed, given that thirdness presupposes secondness, and secondness presupposes firstness, Peirce's theory assumes that human-specific modes of semiosis (turning on thirdness: symbols and interpretants) are grounded in modes of firstness and secondness (icons and indices, signs and objects). Peirce's pragmatism, then, is a semiotic materialism. See Table 1.

While most of Saussure's more famous categories (langue/parole, signifier/signified, etc.) may be understood in terms of Peirce's categories (and hence semiology may be framed in terms of semiotics), the converse is not true. For example, Saussure had no account of interpretants; no understanding of meaning as a relation between relations;[6] no comprehensive account of nonlinguistic signs; and no understanding of the fundamental nature of motivated meaning (which constitutes most modes of meaning).[7] That is, Saussure's theory has fewer dimensions than the processes it

Table 1
Summary of semiotic categories.

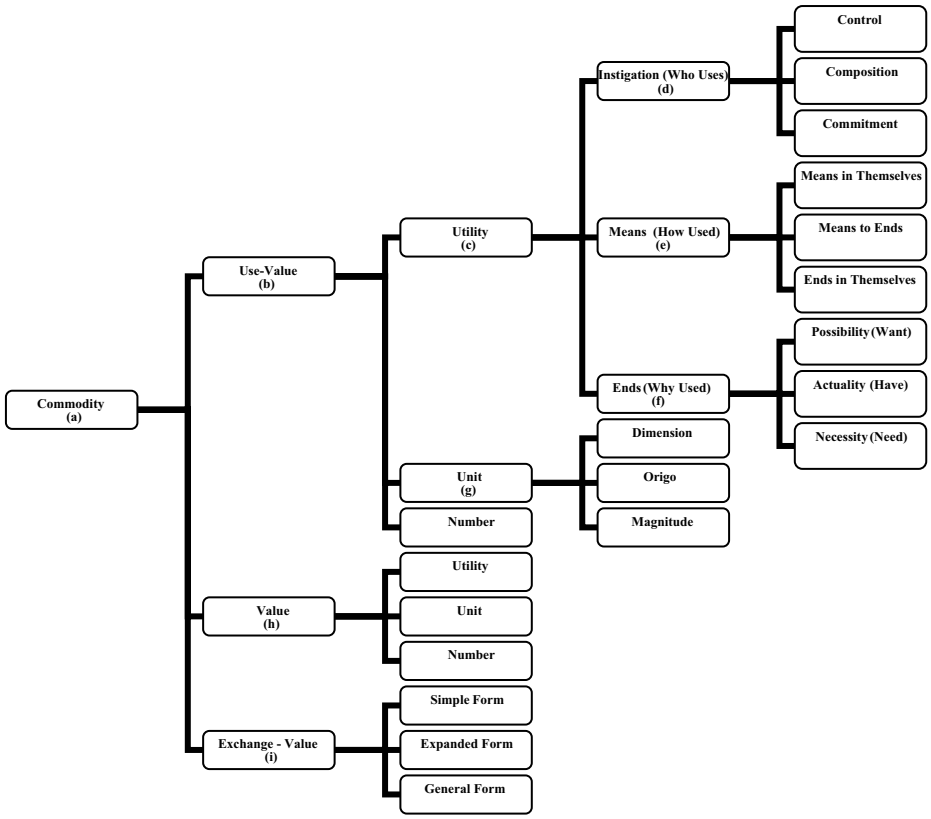
	Semiotic Process	Ground	Phenomenology (Hegel)	Modality (Kant)
Firstness	Sign	Iconic (Quality)	Sense	Possibility
Secondness	Object	Indexical (Contiguity)	Force	Actuality
Thirdness	Interpretant	Symbolic (Convention)	Understanding	Necessity

attempts to theorize. It is for this reason that most attempts to combine Saussure with Marx, or linguistics with economics more generally (Baudrillard 1981; Sahlins 1976; and Saussure 1986 himself), have foundered.[8] Indeed, attempts to bring Marx's critique of political economy into a (Saussurian) theory of language—Voloshinov (1986) and Vygotsky (1978), in particular—have been far more successful than attempts to bring Saussure's theory of signs into a (Marxist) theory of political economy.[9] And this should come as no surprise: unlike the Saussurian framework into which many scholars have tried to mould it, Marx's political economy has a theory of history, subjectivity, agency, the unconscious, power relations, motivated meaning, and so forth. Moreover, that aspect of Saussure's system that is worth celebrating—a fundamental commitment to holism, and identity through difference—is already present in Marx via his commitment to totality and relationality through the lens of Hegel's logic (see Hegel 1991; Lukacs 1994; Turner 1984). Insofar as Peirce's system avoids all the pitfalls of structuralism, and hence makes most post-structural critiques superfluous (Colapietro 1989; Kockelman, 2005), semiotics and political economy are much more compatible theories.

Applying the Categories

Table 2 shows *a semiotic ontology of the commodity*. As may be seen, every superordinate category breaks up into three subordinate categories. Moving from the left to the right, and then down and back, these categories are as follows. Commodities (a) unfold into use-values, values, and exchange-values. Use-values (b) unfold into utilities, units, and numbers. Utilities (c) unfold into instigation, means, and ends.

Table 2
Semiotic ontology of the commodity.



Instigation (d) unfolds into control, composition, and commitment. Means (e) unfold into means in themselves, means toward ends, and ends in themselves. Ends (f) unfold into what one wants (possibility), what one has (actuality), and what one needs (necessity). Units (g) unfold into dimensions, origos, and magnitudes. Values (h) unfold into utilities, units, and numbers. And exchange-values (i) unfold into elementary forms, total forms, and generalized forms. As will be seen, exchange-values are usually themselves just commodities seen through a different semiotic frame (themselves having a use-value, value, and exchange-value), and so the process of unfolding subordinate categories could continue indefinitely. As with Marx's ontology of the commodity (recall Figure 1), these categories—while theorized in terms of firstness, secondness, and thirdness—are only embodied in historically-specific social relations, semiotic practices, and material processes. In what follows, each of these distinctions will be developed in more detail.

Before continuing, however, one point must be made in no uncertain terms: *the following deployment of categories should be understood as a strategy and not a system*. Theoretically, there may be no end to the number of threefold divisions one could introduce. And phenomenologically, there may be no end to the future forms in which the commodity will appear. These categories have been selected because they relate most closely to Marx's original distinctions (and hence should be familiar), and because they are particularly salient in the current context (and hence should be relevant). They are not meant to delimit real things, nor even express ideal types, but rather to provide a *pragmatic typology*. They are thereby best understood as a set of flexible and portable tools that are designed to interpret a wide-range of ethnographic data in ways that are analytically precise (yet open-ended) and empirically tractable (yet locally-sensitive). The issue then is not their truthfulness, but their usefulness.

a. Commodity as Use-Value, Value, and Exchange-Value

Three key categories are present in Marx's ontology of the commodity: use-value, value, and exchange-value. In particular, anything that can be used or consumed by humans in some way may be called a *use-value* (e.g., a loaf of bread, a jug of wine, two machetes). Any use-value, or utility of a given number and unit, may be exchanged for another use-value, which may be called its *exchange-value* (e.g., a loaf of bread may be exchanged for three sticks of butter, a leg of lamb, or 100 sheets of paper). The fact that such radically different things as machetes, bread, butter, lamb, and paper can be proportionally equated in exchange is evidence that these things have different quantities of a common substance, which may be called *value*. A commodity, then, is anything that has use-value and value, where the latter is expressed as exchange-value. As Marx phrases it, exchange value is "only the mode of expression, the phenomenal form, of something contained in it, yet distinguishable from it [i.e., value]" (1967:45).

In terms of the categories introduced in section 2, the commodity is a semiotic process whose sign is a use-value, whose object is a value, and whose interpretant is an exchange-value. A commodity thereby consists of a relation between relations: a use-value relates to its value on the one hand, and its exchange-value on other, in such a way as to make its exchange-value relate to its value corresponding to its own relation to the value. This relation between relations is shown in Figure 4.

Moreover, if the object of a sign is that to which all interpretants of the sign conditionally relate, then the value of a use-value is that to which all exchange-values of the use-value *collaterally* relate.[10] A collateral relation is therefore a particular kind of conditional relation when the object in question relates interpretants via commensuration: proportional quantities of a shared quality. See Figure 5. It is this movement from a relation of correspondence to a relation of collaterality that distinguishes economic value from meaningfulness more generally.[11] Thus, while a cat's purr and a commodity belong to the same genus, in that they both constitute semiotic processes, they are very different species.

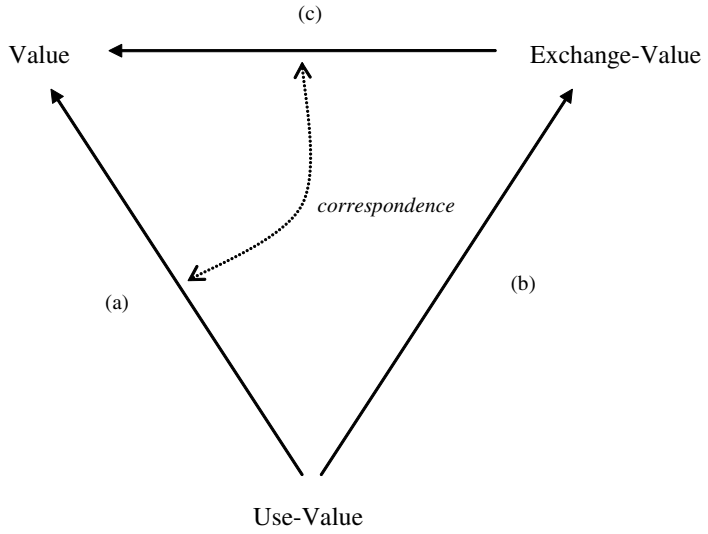


Figure 4
Commodity as relation between relations.
A use-value stands for its value on the one hand (a) and its exchange-value on the other (b) in such a way as to bring the latter into a relation to the former (c) *corresponding* to its own relation to the former (a). (Compare Figure 2.)

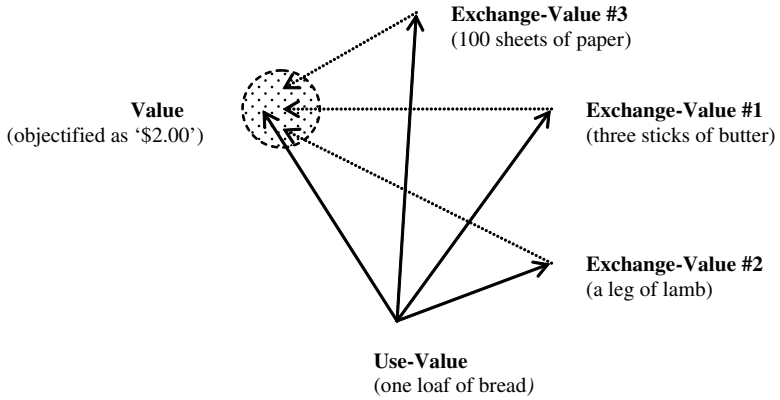


Figure 5
Value as collateral relationality.
The value of a use-value is that to which all exchange-values of that use-value collaterally relate. A collateral relation is thus a particular kind of conditional relation when the object in question (in this case, value) relates interpretants (in this case, exchange-values) via commensuration: proportional quantities of a shared quality. (Compare Figure 3.)

Such a semiotic understanding of the commodity motivates the fact that there are three key categories in Marx's system (rather than two): use-value, value, and exchange-value. And it thereby motivates why there are three key components of an economy: consumption (orientated toward use-value); production (orientated toward value); and circulation (orientated toward exchange-value). Moreover, such a definition emphasizes not only that a commodity is a complex *process* (rather than a thing), involving production, consumption, and circulation, but that it is also a *relation between relations* (between such processes).

Finally, this understanding of the commodity offers a means to distinguish between various theories of value: there are those theories that postulate that the value of a use-value determines its exchange-value (i.e., the object of a sign determines its interpretants); there are those theories that postulate that the exchange-values of a use-value determine its value (i.e., interpretants determine the objects of

signs); and there are those theories that postulate that the utility of a use-value determines its value (i.e., signs determine the interpretants of their objects). Such theories correlate with those who postulate a labor-theory of value, a market-theory of value, or a utility-theory of value. As will be seen in section (h), Marx's theory of value—while often referred to as a 'labor theory of value'—actually makes reference to all three processes.[12]

b. Use-Value as Utility, Unit, and Number

A use-value breaks up into three parts: utility (i.e., a formless substance, something that can be used in some way to do something by someone); a unit (i.e., a substanceless form, or shape in which this utility usually comes); and a number (or quantity of such units of utility). For example, in the expression *three pats of butter*, the number is *three*, the unit is *pat*, and the utility is *butter*. In Marx's ontology, this three-way distinction is expressed in terms of quality and quantity—a fact which has two repercussions: sometimes number and unit are conflated into Marx's category of quantity (à la *three pats* of butter), and sometimes unit and utility are conflated into Marx's category of quality (à la three *machetes*). That is, in the case of *count nouns*, or nouns that can be pluralized and made indefinite (i.e., seemingly formed substances such as *machetes*, *trees*, and *shirts*), Marx's category of quantity maps onto number, and Marx's category of quality maps onto unit and utility; and in the case of *mass nouns*, or nouns that cannot be pluralized or made indefinite (i.e., seemingly formless substances such as *butter*, *water*, and *time*), Marx's category of quantity maps onto number and unit, and Marx's category of quality maps onto utility.[13] See Table 3.

Indeed, note that many so called immaterial commodities do not come in easily quantifiable units, a point which has three sub-points. It may be difficult to assess what utility is being measured (e.g., affect, information, creativity, and IQ). It may be difficult to assess what unit the utility comes in (e.g., a byte of information, a loving hug, a good idea). And it may be difficult to count the units of utility. Hence, as exemplified in the material objects and social practices that Mayan villagers had to provide for ecotourists (ranging from bed-size to hiking-pace), there are also processes of utilization, unitization, and numericalization that go hand in hand with the history of political economy. Any ethnographically-adequate account of use-value, any true economic anthropology, would have to investigate all of these kinds of parameters and processes.

Given that the stereotypic use-value is an instrument, use-values are simultaneously semiotic processes (i.e., instruments, which consist of an artificed entity as their sign, a function as their object, and a mode of wielding as their interpretant) and the sign components of larger semiotic processes (i.e., commodities, which consist of a use-value as their sign, a value as their object, and an exchange-value as their interpretant). See Figure 6. However, use-values are not only instruments as so defined. Rather, *any* semiotic process (consisting of a sign-object-interpretant relation) can be a use-value so far as it serves as the sign-component of a commodity. In this way, a commodity is necessarily meta-semiotic: consisting of a larger semiotic process, each of whose components may be smaller semiotic processes. And, in this

Table 3
Use-value decomposed.

Semiotic Ontology	Number	Unit	Utility
Marx's Ontology for Count Nouns	Quantity	Quality	
Marx's Ontology for Mass Nouns	Quantity		Quality

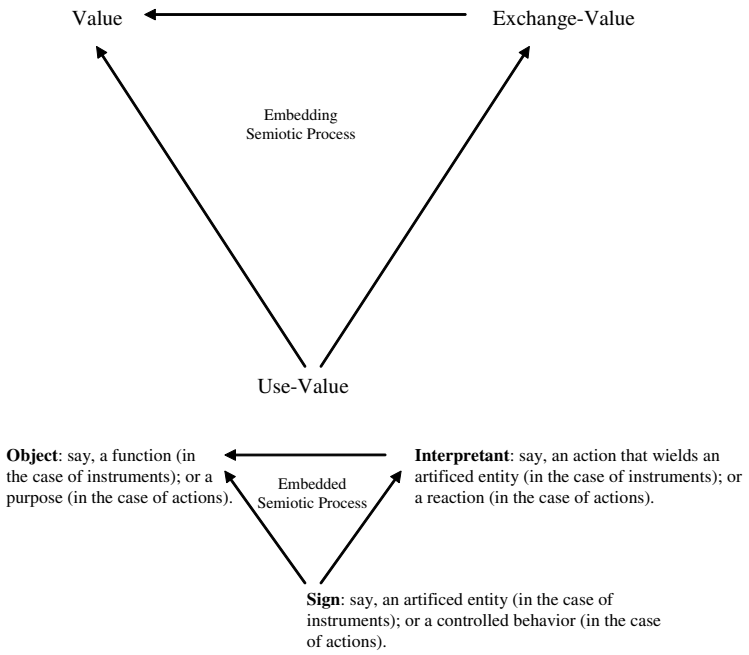


Figure 6
Commodity as meta-semiosis.
Use-values are simultaneously semiotic processes (i.e., instruments, which consist of an artificed entity as their sign, a function as their object, and a mode of wielding as their interpretant) and the sign-component of larger semiotic processes (i.e., commodities, which consist of a use-value as their sign, a value as their object, and an exchange-value as their interpretant). In this way a commodity is meta-semiotic: consisting of a larger semiotic process, each of whose components may be smaller semiotic processes.

way, one may begin to investigate the commoditization of semiosis, or sign-object-interpretant relations more generally: giving off signs for others to interpret and interpreting signs that others have given off. For example, much of what falls under the rubric of 'immaterial labor' (e.g., the basic social processes that constitute the bulwark of the service economy) are just practices involving the pair-part structures described in section 3, and exemplified in the hosting and guiding practices involved in ecotourism: questions and answers, offers and acceptances, commands and undertakings, assessments and agreements, and so forth. That is, everyday interaction is the exemplar of immaterial labor.

Of course, certain things are difficult to commoditize insofar as they are difficult to exchange (if one owns them), difficult to determine who owns them (in order to exchange them), difficult to standardize (and thereby exchange in specific numbers and units), and difficult to find a use for in the first place (and thereby have a reason to exchange them). Examples of the first category are inalienable possessions (arms, hearts, names, sons, and so on); examples of the second category are common resources (oxygen, lakes, woods, streams, and so forth); examples of the third category are relatively nonsensuous, nonpermanent, and nonsegmentable things (memories, beliefs, ideas, utterances); and examples of the fourth category are useless or ubiquitous things (dust, snot, and so forth). Indeed, the pair-part practices that make up much of immaterial labor seem to suffer from almost all of these difficulties. Nevertheless, the service economy has long been constituted as economic. And, more generally, humans have managed to commoditize members of each of these categories by finding ways of alienating, titling, standardizing, or utilizing them.

As is well known, once commoditized, the economic value of these constituents may supersede their other meanings. In such cases, the infinity of meaningful qualities is reduced to different quantities of a single quality. For example, 'functions' and

'purposes' (*qua* objects of the embedded semiotic processes) are elided, while 'value' (*qua* object of embedding semiotic processes) is emphasized. Thus, while critical theorists from Aristotle to Marx will speak of the flattening effects of capital in terms of quality being reduced to quantity, it is much more precise to say that embedding semiotic processes turning on collateral relationality (i.e., use-values, values, and exchange-values) come to trump embedded semiotic processes turning on conditional relationality (i.e., signs, objects, and interpretants more generally).[14] Proverbially, one knows the price of everything and the meaning of nothing.

c. Utility as Instigation, Means, and Ends

Marx took quality to break up into means (how employed: means of subsistence versus means of production) and ends (why employed: satisfy stomach versus satisfy fancy). As used here, Marx's notion of quality is closest to the foregoing category of utility, and the nature of utility is really threefold: instigation, means, and ends. While the last two categories loosely map onto Marx's original categories, the first category is essentially the one who wields the means for the ends, and was outside of Marx's explicit ontology. In short, for any utility, we may not only inquire into how it is used (*qua* means), and why it is used (*qua* ends), but also by whom it is used (*qua* instigation). The category of utility, then, necessarily makes reference to the categories of who, how, and why.

d. Instigation (who) as Control, Composition, and Commitment

The nature of instigation is threefold: the one who controls the use of the utility in space and time (where and when it is used); the one who composes which utility is to be used (what and how); and the one who commits to the effect the utility will have when used (why and to what effect). Phrasing all these points in an Aristotelian idiom, the committer determines the end, the composer determines the means, and the controller determines when and where the means will be wielded for the end.[15] In this way, for any utility, one may distinguish between undertaker-based instigation (control: when and where), means-based instigation (composition: what and how), and ends-based instigation (commitment: why and to what effect). Indeed, phrasing all these points in a semiotic idiom (Kockelman 2005): one controls the expression of a sign (when and where, say, an instrument is wielded, or an action is undertaken); one composes a sign-object relation (which instrument is wielded, or which action is undertaken); and one commits to an interpretant of this sign-object relation (what effect the instrument will have when and where it is wielded, or what the outcome of the action will be when and where it is undertaken).

For example, many modern consumer commodities promise, if not deliver, greater degrees of instigation or 'agency.' A case in point are modern computers, and computerized commodities more generally: by being more and more portable, they allow their users more control; by being more and more personalized, they allow their users more composition; and by being more and more predictable, they allow their users more commitment. Indeed, the process has now become reflexive: computers allow users to instigate, or have agency over, the production process per se. For example, one may virtually assemble a car, mixing and matching what kinds of features it could have, and even taking the assembled features for a 'test-drive' to find out what kinds of performance it will offer—all of which may be done, via the internet, and from the comfort of one's home, prior to any actual purchase or production of the commodity in question (and see Harvey 1989 for an early discussion of 'flexibility').

Usually, we think of a single individual controlling, composing, and committing. However, each of these modes of instigation, each of these dimensions of agency, may be carried out by separate individuals. Moreover, each or all of these modes of instigation may be carried out by groups of individuals. Indeed, even if only

metaphorically, each or all of them may be carried out by parts of the same individual: the body controls what the mind composes and the will commits to. And, more generally, each of these modes need not be carried out at the same time, nor in the same place: one may control (here and now) what was composed by someone else (there and then) what will be committed to by a third person (in some other place and at some other time). Indeed, when the signs (objects and interpretants) in question involve pair-part structures, such as ongoing conversation, the hosting and guiding of ecotourists, and discourse more generally, it is very difficult to locate, or individualize, control, composition, and commitment: the entire interaction is the locus of instigation.[16]

In this regard, one sense of fetishism is the attribution to some entity of more control, composition, and commitment than is warranted. It may involve the belief that proper propitiation to a golden calf, Judeo-Christian god, or economic theory will provide a degree of agency over the fruits of the harvest, the duration of the plague, or the wealth of the nation. In this way, fetishization is really a multidimensional and by-degrees process: assuming something has more control (over the expression of a sign in space and time), more composition (over which sign is expressed and what it stands for), and more commitment (over the interpretant that will come into being because this sign-object relation was expressed at a certain place and time). It is the unwarranted attribution of instigation, the unjustified ascription of agency.

e. Means (how) as Means in Themselves, Means toward Ends, and Ends in Themselves

For any utility, one can inquire into its nature as means. For Marx, who couched utility in terms of different kinds of quality, there were two possibilities: those means that are used directly (e.g., use-values that are merely consumed: food, clothing, furniture, and shelter); and those means that are used indirectly (e.g., use-values that are consumed in order to produce more use-values: iron, cloth, machetes, and looms). A related distinction was also present in Aristotle's *Politics* (2001b): instruments of action (such as a bed, as used for sleeping); and instruments of production (such as a shuttle, as used for weaving). Marx's distinction may be reframed as follows: utilities that are means in themselves; utilities that are means toward other use-values as ends; and utilities that are ends in themselves.

The last two of these three categories are just Marx's original distinctions (indirect and direct means, respectively); and the first is just another of Marx's categories: labor-power, or a means in itself, a means without ends. Indeed, in the most extreme case, when abstracted from any particular socio-historical formation, labor-power is really *pure human possibility*—a fact, needless to say, which makes its alienation all the more tragic. For Marx, labor-power is "the aggregate of those mental and physical *capabilities* existing in a human being, which he *exercises* whenever he produces a use-value of any description" (1967:164, emphasis added). Labor-power, when exercised, is of course channeled into producing particular use-values; but labor-power itself is not designed to produce any particular use-value (contrast any indirect means—say, a loom, which weaves yarn into cloth). Moreover, if we include within the category of 'mental and physical capabilities' a semiotic capability (say, *langue*, or competence, generalized across all the sign systems in which humans are implicated), and treat the actualization of these capabilities (say, *parole*, or performance) to be the 'exercise' of such capabilities, then labor-power is an awesome power indeed. And while such a generalization was not absolutely necessary to understand the modes of 19th-century industrial capital that Marx focused on, it becomes more and more important to understand the modes of *semiotic capital* that now surround us—wherein the self-expansion of value underlies any and every mode of signifying or interpreting.

To return to the village of Chicacnab, the project emphasized the communicative needs of tourists, and tried to train villagers to speak and understand some Spanish and English. For example, at one meeting the volunteers provided a list of phrases

for villagers to say and understand. These phrases turned on a number of basic speech acts: identification ('what is your name'; 'my name is'); greeting ('how are you'; 'well, thank you'); parting ('goodbye'); ingratiating ('please'); apologizing ('I am sorry'); evaluating ('the food is good'); desiring ('I want to rest'); and referring ('quetzal'; 'monkey'; 'forest'). In this way, through the pair-part structures of conversational norms (e.g., offer-acceptance, question-answer, assessment-agreement, and so forth), and through a vocabulary of basic objects and activities of interest, the project provided villagers with a kind of pidgin language of ecotourism. In short, the project focused on fostering new modes of semiotic and social competence, to be exercised by villagers (or "performed") when interacting with ecotourists.[17] And the exercise of this power, and hence the performance of this competence, was embodied in pair-pair structures which were ultimately standardized and priced.

f. Ends (why) as What One Wants, What One Has, and What One Needs

For any utility, one can inquire into the nature of the ends (for the sake of which the utility is used). For Marx, there were two possibilities: those ends that arise in one's stomach (e.g., staple items, such as meat and potatoes); and those ends that arise in one's fancy (e.g., luxury items, such as cigars and caviar). Marx's distinction, then, is grounded in two poles of modality: necessity and possibility. As is well known from Kant's work, however, there are really three kinds of modality: when phrased in terms of practical reason (1993), these are permission, actuality, and obligation; and when phrased in terms of pure reason (1964), these are possibility, actuality, and necessity. As mentioned in section 2, these correlate with Peirce's categories of firstness, secondness, and thirdness. And, framing these distinctions in more anthropocentric terms (or in terms of economic reason rather than pure or practical reason), one may examine desires (possibility), possessions (actuality), and requirements (necessity). In other words, the question of ends may be reframed in terms of a three-way distinction between what one wants, what one has, and what one needs.

While this may seem like an academic distinction, it immediately opens up a space for understanding various systemic discrepancies (as possible combinations of these three categories). In particular, while in a perfect world one needs what one wants and one has what one needs, ours is not a perfect world: we don't always have what we need; and we don't always need what we want. Indeed, more generally, an entire eightfold typology of discrepancy may be articulated. For example, does one want what one has? (If not, such a situation may be characterized by indifference or apathy.) Does one have what one wants? (If not, such a situation may be characterized by envy or greed.) Does one want what one needs? (If not, such a situation may be characterized by blindness or ignorance.) Does one need what one wants (If not, such a situation may be characterized by misapprehension or illusion.) Does one have what one needs? (If not, such a situation may be characterized by shortage or dearth.) And does one need what one has? (If not, such a situation may be characterized by surplus or glut.) Many attempts to measure 'happiness' (say, the percentage of a population that enjoys some semblance of 'the good life') are really attempts to assess whether or not any two of these three categories overlap (usually framed, for example, in terms of having what one needs, rather than in terms of wanting what one has); and, when they do not overlap (as they almost never do), to assess the degree to which they diverge.[18]

It should be emphasized that the category of 'need' is as much an historical and moral question as it is a biological or scientific question; and the category of 'want' is as much an historical and moral question as it is a personal or subjective question (see Marx 1967:168 on the historical and moral factor that enters into the determination of labor value). That is, while it may be interesting to theorize relatively trans-historic needs, or relatively personal desires, most needs and desires are mediated by concrete, historically-specific social formations—and it is relative to such formations that the above questions must be posed. More insidiously, modern forms of production

are just as geared to producing desire as they are to producing the commodities that would satiate it; and they are just as geared to producing need as they are to producing the commodities that would mitigate it. Indeed, as seen in the introduction, the ecotourism project devoted as much effort to fostering the desires and needs of villagers as translating the desires and needs of tourists. And it is partly for these reasons that such questions are squarely within the domain of political economy.[19]

g. Unit as Dimension, Origo, and Magnitude

One can inquire into the nature of units, which is part of what *Capital* treats under the category of quantity (i.e., the measure of use-value). For Marx, there were two possibilities: natural, or motivated units (e.g., the foot); and conventional, or arbitrary units (e.g., the meter). Needless to say, this distinction is quite famous, running from Aristotle (natural versus conventional) to Saussure (motivated versus arbitrary). And even serious metrologists such as Kula (1986) find it helpful to classify measures into two types—the functional and the representational. For present purposes, before the proper set of distinctions can be introduced to adequately develop Marx's intuition, an intermediary set of distinctions needs to be unfolded. In particular, there are really two crosscutting issues: first, what kinds of parameters does a measurable unit have (dimension, origo, magnitude); and second, how do such parameters relate to the utilities measured by those units (iconic, indexical, symbolic).

A measurable unit, then, has three basic parameters. There is the *dimension* at issue (e.g., length, weight, time, temperature, etc.). Loosely speaking, this is the questions of *what* one measures. There is the *origo* relative to which this dimension is being measured (e.g., the north pole for latitude, the freezing point of water for temperature, the birth of Christ for time, etc.). Loosely speaking, this is the question of *from where* does one measure. Finally, there is the *magnitude* of this dimension (e.g., pound vs. gram, hour vs. second, degree Celsius vs. degree Fahrenheit, etc.). Loosely speaking, this is the question of *how far* does one measure. Dimensions, origos, and magnitudes are the key parameters of any measurable unit. For example, in the case of 'heat,' the dimension is temperature (say, the average kinetic energy per degree of freedom for some body). The origo depends on which system of measurement is used: it may be the freezing point of water (Celsius) or the point of minimum disorder (Kelvin). And the magnitude depends on how large the units of temperature are in the system of measurement at issue: degrees Celsius have relatively smaller magnitudes than degrees Fahrenheit.[20]

Moving now to Marx's original distinctions, each of these parameters (dimension, origo, magnitude) may have iconic, indexical, and symbolic properties. Iconic units have a quality in common with what they measure (and hence dimensions, origos, or magnitudes may be more or less iconic). Indexical units have temporal, spatial, or causal contiguity with what they measure (and hence dimensions, origos, or magnitudes may be more or less indexical). And symbolic units have nothing in common with, and no connection to, what they measure (and hence dimensions, origos, and magnitudes may be more or less symbolic).[21] Thus, in Marx's original system, natural units involve the iconic and indexical; and conventional units involve the symbolic.

h. Value as Utility, Unit, and Number

Everything said in section (b) regarding the decomposition of use-value into utility, unit and number holds for value. Rather than repeat that discussion, this section focuses on the processes involved in determining the value of any commodity. In particular, it argues that the term 'labor theory of value' is a misnomer and proposes that there are really three essential factors: production, circulation, and consumption.

For Marx, the value of any use-value is determined by the quantity of labor embodied in it, and this quantity of embodied labor is determined by the labor-time socially necessary for the production of the use-value. Socially necessary labor-time involves

several factors, the most important of which is the duration of time "required to produce an article under the normal conditions of production, and with the average degree of skill and intensity prevalent at [a given point in historical] time" (1967:47). For example, if the introduction of a power-loom reduces the labor-time to weave a bolt of cloth by one-half, then those who continue to weave by hand find the value of their labor reduced by one-half (1967:47). The value of any use-value is thereby iconic-indexically related to the labor that produced the particular use-value (indexical because causally realized; iconic because proportionally incorporated). And the value of any use-value is iconic-indexically related to the labor that produced all other use-values (indexical because in any statistical ensemble each part is related to every other part of the whole; iconic because inversely-proportional as part is to whole). As Marx notes, "The value of a commodity, therefore, varies directly as the quantity, and inversely as the productiveness, of the labour incorporated in it" (1967:48).

But Marx understands value to turn not just on production, but on all three pieces of the economic process: production, circulation, and consumption (1967:46–48, 108–109). In particular, the phrase *socially necessary* serves several functions. First, as just discussed, it has to do with the average productiveness of labor, across an ensemble of production units (such as factories), turning out the same use-values, sharing the same market, and operating during the same business cycle. Second, it has to do with the utility of the use-values so produced: "nothing can have value, without being an object of utility. If the thing is useless, so is the labour contained in it; the labour does not count as labour, and therefore creates no value" (1967:48). That is, the utility of the use-value so produced must be desired or needed by some members within a society, or else the use-value has no value: for utility is not intrinsic to a use-value, but rather exists in the relation between the use-value and the user. And finally, utility itself is not determined in the abstract, but by supply and demand, or the relation between the amount of use-values produced and the amount of use-values needed and desired by users (within a given market and during a given cycle). This point is so important that it is worth quoting Marx at length:

> If the community's want of linen, and such a want has a limit like every other want, should already be saturated by the products of rival weavers, our friend's product is superfluous, redundant, and consequently useless. . . . If the market cannot stomach the whole quantity at the normal price of 2 shillings a yard, this proves that too great a portion of the total labour of the community has been expended in the form of weaving. *The effect is the same as if each individual weaver had expended more labour-time upon his particular product than is socially necessary*. [1967:108–109, emphasis added][22]

This mediation of value by production, circulation, and consumption may be seen in Figure 7. In this way, the value of a commodity, as will be ultimately expressed in, or at least proportional to, its price-form, is just as dependent on 'supply and demand' (*qua* circulation) and 'desire and need' (*qua* consumption) as it is on means of production and labor power (*qua* production). And, depending on the commodity at issue, and the time-scale of interest, any one of these factors may be more or less determining of price.

As may be inferred from the foregoing points, because of the statistical factor involved in determining the value of a commodity, a key feature of a commodity economy is that value is abstracted over tokens and adheres only in types.[23] As Marx phrases it, "Each individual commodity . . . is to be considered as an average sample of its class" (1967:47). For example, whether considering the value of a run-of-the-mill commodity (say, a toaster), a universal equivalent (say, a gold-brick), or a symbol of the universal equivalent (say, a dollar bill), the particular toaster, gold-brick or dollar-bill is unimportant. Nevertheless, sometimes the token is valued over the type: I want *this* blender (say, it was the one used in the display); I want *this* brick of gold (my grandmother hid it beneath the floorboards); I want *this* dollar bill (it was the first one used to purchase something at my bar). Such cases of valuing a token over the value of its type usually require knowing some aspect of the token's worldline: how it was

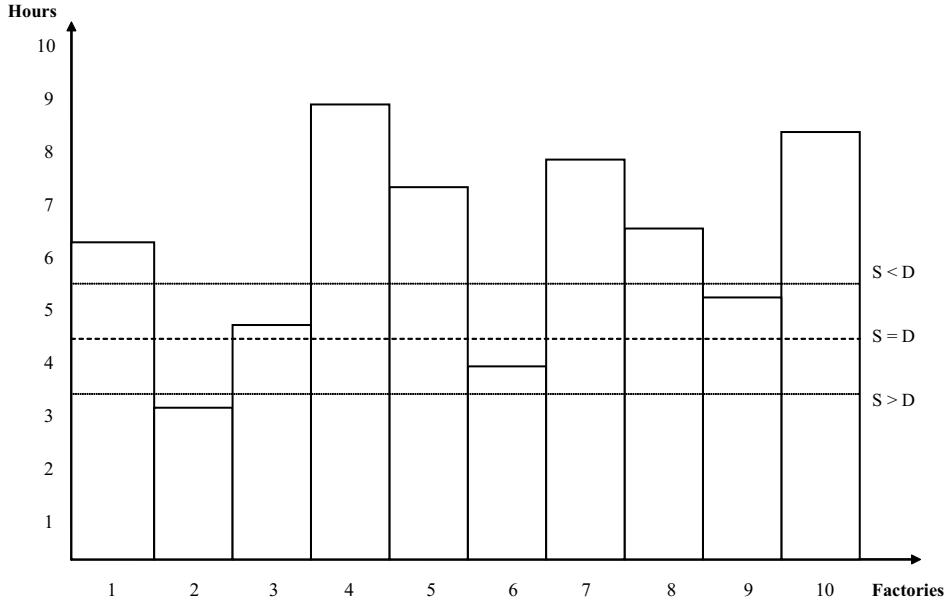


Figure 7
Production-Circulation-Consumption theory of value.
Graph showing amount of time (y-axis) required by each of 10 bakeries (x-axis) to make 100 loaves of bread. The average time necessary to make 100 loaves of bread is therefore 4.5 hours (shown by the heavy, dotted line). If 1 hour = $10, then each loaf of bread should have the value of 45 cents. Assuming that there are 1,000 families buying one loaf of bread per day, then supply is equal to demand (S = D), and a loaf of bread does indeed cost 45 cents. However, if the number of families grows, then supply may be less than demand (S < D); and if the number of families shrinks, then supply may be greater than demand (S > D). Moreover, demand itself is grounded in the desires and needs of a buying public, which itself can change irrespective of the fluctuating size of this public: via taste, fashion, holiday baking, a craze for sandwiches, and so forth. In such cases, it is as if each of the factories—and hence all factories—were working more or less than socially necessary, and hence the price their bread will realize when sold either grows or shrinks.

produced, exchanged, or used at some point in its past. In other words, rather than treating the sign-component of a commodity as a replica, it is treated as a singularity.[24] Needless to say, this is one of the paradoxes of ecotourism: Tourists are attracted to singularity (as a unique face-to-face interaction with an other) yet paying for replication (as the deployment of standardized communicative competence).

i. Exchange-Value as Elementary, Total, and General

On his way to an analysis of money (1967:55–66), Marx makes a distinction between the *relative* form of value (or the commodity whose value is being expressed), and the *equivalent* form of value (or the commodity in which value is expressed). For example, in the equation 'one machete is equal to two loaves of bread,' *one machete* is the relative form of value and *two loaves of bread* is the equivalent form of value. Any equation of this sort, which expresses the relative value of one commodity in terms of the equivalent value of another commodity, may be called the *simple* (or elementary) form of value (for some commodity). As Marx notes, such equations "tell us that in two different things . . . there exists in equal quantities something common to both. The two things must therefore be equal to a *third*, which in itself is neither one nor the other. Each of them, so far as it is exchange-value, must therefore be reducible to this *third*" (1967:45, emphasis added). We may call this 'third pole,' the projected form of value. See Figure 8a.

Any equation in which the relative form of value of any single commodity is expressed in terms of a series of all equivalent forms of value may be called the *expanded* (or total) form of value (for some commodity). For example, 'one machete

is equal to two loaves of bread, is equal to a pound of butter, is equal to three buck-knives (and so on indefinitely, for all commodities within an economy).' See Figure 8b. And any equation in which the relative form of value of a series of all commodities is expressed in terms of the equivalent form of value of a single commodity may be called the *general* form of value (for some commodity). For example, 'two loaves of bread, one pound of butter, three buck-knives (and so on indefinitely, for all commodities within an economy) are equal to one machete.' See Figure 8c.

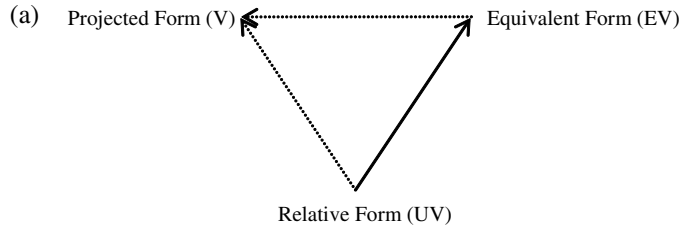


Figure 8a
Elementary (accidental) form of value.
Relative form of value is equal to equivalent form of value, so far as both are reducible to a third (here called the "projected" form). For example: one machete (relative value) is equal to two loaves of bread (equivalent value). Any two commodities within an economy may be related this way.

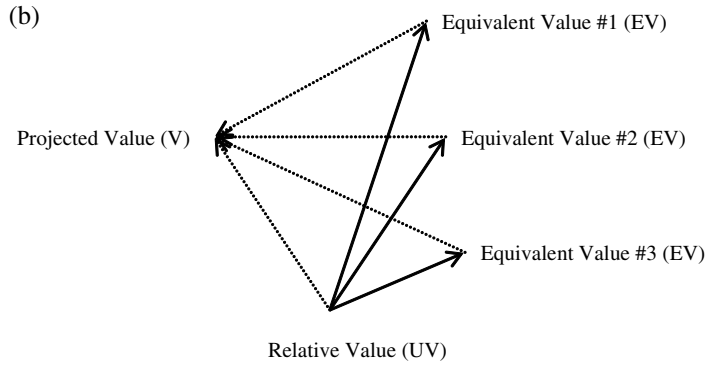


Figure 8b
Total (expanded) form of value.
Relative form of value is equal to a potentially infinite series of all equivalent forms of value, so far as all are reducible to a third form of value. For example: one machete is equal to two loaves of bread, a pound of butter, three buck-knives (and so on, for all commodities within an economy).

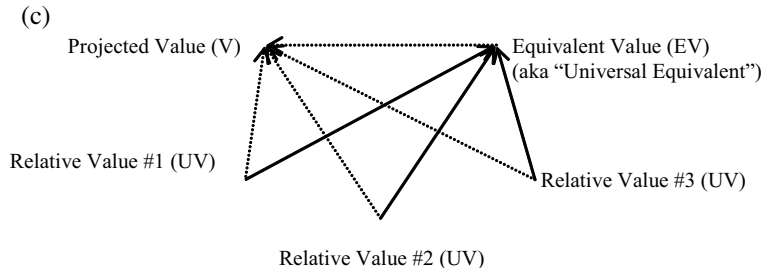


Figure 8c
General form of value.
Potentially infinite series of relative forms of value is equal to a single equivalent form of value, so far as all are reducible to a third form of value. For example: three buck-knives, two loaves of bread, a pound of butter (and so on, for all commodities within an economy) are equal to one machete.

Whenever a single commodity is used to express the relative form of value for all other commodities, it may be called the *universal equivalent* (1967:72).[25] To be the universal equivalent, and hence to be the form in which the value of all commodities is ultimately manifested, is the function of *money* (1967:90). In this most basic sense, any commodity can function as money so far as it plays the role of universal equivalent—though precious metals, such as gold and silver, are usually chosen. Notwithstanding this rather abstract use of the term, money for Marx usually means coined money, and hence countable units of such precious metals (which are segmentable, portable, durable, etc.). When money is replaced by maximally symbolic signs of value (1967:125–30), it may be called *paper money* (owing to the medium in which the sign is usually embodied and to emphasize the fact that it has no value per se; it need not actually be paper). Thus, we may take there to be three subcategories of the general form of value: 1) when some particular commodity becomes the universal equivalent (say, gold); 2) when some precious metal, in the form of coin, becomes the universal equivalent (say, shillings); and 3) when some relatively symbolic sign represents value but has no value itself (say, dollars). These subcategories scale, then, as a function of their relative motivation.

In short, the account of exchange-value offered in *Capital* has been modified in three respects. First, Marx treats the relationship between value and exchange value as a relation between essence and appearance. As introduced in section (a), however, exchange-values are here treated as the interpretants of use-values so far as they have a particular value (as their object). Second, Marx's treatment of exchange value turns on four categories: the elementary form of value, the total form of value, the general form of value, and the money form of value (1967:54–75). As used here, however, there are really three categories (elementary, total, and general); and the general category itself has three subcategories (a particular commodity, coined money, and paper money). Finally, Marx treats the form of value has having two poles: the relative form and the equivalent form. As used here, however, there are really three 'poles': the relative form, the equivalent form, and the projected form.

Conclusion: Commensuration Is the Art of Governance Proper to Neoliberalism

Governance is a process whereby the possible actions of formally free individuals are enabled and constrained (Burchell 1991; Foucault 1991). *Commensuration* is a process whereby otherwise distinct entities are rendered comparable by reference to proportional quantities of a shared quality (Aristotle 2001b; Espeland and Stevens 1998; Marx 1967). And *neoliberalism* is a worldview that fosters market-based behavior as the pervasive mode of social conduct (Gordon 1991).

This understanding of neoliberalism comes from Foucault (1991) and Gordon (1991). In these works, liberalism is couched as a critique of state-reason—that is, the limits of what a state can know about its economy (in the broad sense) as the key factor limiting the state's interventions in that economy. Neoliberalism is a version of liberalism in which the market is not understood as a quasi-natural and spontaneous entity to be respected in a laissez-faire fashion by the government, but rather as an entity to be fostered by institutional and legal forms in order to combat the anticompetitive effects of society. In this way, neoliberalism favors government intervention—and, as seen in the introduction, nongovernmental intervention—to further enterprise as the pervasive form of social conduct (see Gordon 1991 on *Ordoliberalen*). Neoliberalism also turns on a much broader understanding of the economy than liberalism. Thus, if classical political economy understands economics as the study of all behaviors involving the allocation of scarce resources to alternative ends, neoliberal economics understands it as all purposive conduct involving strategic choices. Thus, economic activity becomes merely the discriminating use, or 'choice,' of available resources. In this way, economics is a way of addressing all human behavior, and can be used to guide all forms of governance (see Gordon 1991 on the Chicago school of economics).

For neoliberalism, freedom is the freedom to choose; and coercion is the enabling and constraining of possible choices. And insofar as choice (between two or more options) depends on comparability (of those options), and insofar as comparability depends on commensurability (if options are to be judged different in degree, not just different in kind), there is a deep resonance between neoliberalism and commensuration. Moreover, if all that we may opt for is meaningful—turning on signs, objects, and interpretants—then commensuration requires that conditional relationality always be reducible to collateral relationality. While such a reduction is well-documented (by critical theorists), and well-entrenched (by liberal markets), in the case of stereotypic use-values such as instruments, it is only poorly understood and partially governed in the case of non-stereotypical use-values such as affect, speech acts, and social relations. In short, if commensuration is the art of governance proper to neoliberalism, a semiotic ontology of the commodity is required for its illumination.

Notes

Acknowledgments. Many many thanks to Asif Agha for substantive and stylistic advice.

1. A history of the project's interventions in the village, and the effects of tourism on the village, along with a detailed ethnography of tourist-villager interactions, may be found in Kockelman (2002).

2. The hosting and guiding of tourists relates to immaterial labor, which may be loosely defined as an activity which involves the coordination of two or more individuals' roles—consisting of an ensemble of interrelated actions, instruments, skills, and goals—and which has no *lasting* product other than the mode of coordination itself (Kockelman 2002; Lazzarato 1996; Smith 1976:351–352). Immaterial labor is a reflexive mode of production, which is orientated to producing a relatively immaterial commodity: the inhabiting of reciprocal social roles, the expression and interpretation of signs, and hence being a self in relation to an other.

3. Notice how the interpretant component of each of these semiotic processes is itself the sign component of an incipient semiotic process—and hence the threefold relationality continues indefinitely.

4. A Cartesian object may constitute the *raison d'etre* of a semiotic object, and thereby provide a rationale for all the interpretants of the sign that stands for that object.

5. There are also three kinds of interpretants, which may be called affective, energetic, and representational (Kockelman 2005:274–284), and which are essential for theorizing 'embodiment' and 'emotion.'

6. Saussure does theorize value as a relation between relations: The relation between any signifier and signified is mediated via its relation to the relation between (all) other signifiers and signifieds. This is a different kind of relation between relations, and one which, while crucial for defining a *semiological structure* is not helpful for defining a *semiotic process*.

7. Saussure's notion of arbitrariness versus motivatedness is really a distinction between symbolic grounds and iconic-indexical grounds, though he emphasizes the iconic via his example of onomatopoeia.

8. See Graeber (2002) for a discussion. And, indeed, Smith (1976:17–18) and Marx (1967:79, 94; 1973:162–163) long ago commented on the relationship between linguistic meaning and economic value, or between communication and transaction.

9. There is another important set of literature on language and political economy (Friedrich 1989; Gal 1989; Irvine 1989; Williams 1977); as well as the language of political economy (McCloskey 1998; Wolff 1988).

10. Savan (1976; cited in Colapietro 1994:16) defines an object as that to which all interpretants collaterally relate. Hence, what is being borrowed here is his term, not his definition of it.

11. Compare another key species of conditional relationality, which may be called *logical relationality*: when the object in question relates interpretants via inferential articulation (material and formal deduction and induction). Objects whose interpretants have logical relationality are called propositions (e.g., the objects of declarative utterances, such as 'the cat is on the mat'). Semantics, or the study of truth-conditioned meaning, is essentially that species of semiotics which treats signs with propositional contents.

12. Though value is still the central component: production *creates* value; use-values *bear* value; and circulation *realizes* value.

13. A three-way distinction thereby emphasizes a number of different points. One may focus on diverse units of measurement (not only pats and bushels, but also seconds and liters;

not only degrees and joules, but also bytes and hours). One may focus on diverse systems of units, and the history of standardization and reform of such systems: from avoirdupois to metric, from a set of competing systems to a single system, from multiple local standards to a single global standard, and so forth. And, indeed, one may focus not on units of measurement, but on practices of measuring—the way standards are generously or greedily interpreted (and thereby circumvented) in daily life (see Kula 1986). One may focus on use-values in which utility and unit are inseparable (e.g., machetes, people, chairs, and trees) or use-values in which utility is separable from unit (e.g., water, mud, butter, affect, and information). And there are also different languages, and cognitive systems more generally, that make the mass/count distinction in different ways. For example, while the majority of nouns in English are count nouns, in Mandarin (Chinese) almost all nouns are mass nouns, in Yucatec (Maya) most nouns are mass nouns, and in Hopi all nouns are count nouns (Lucy 1992; Whorf 1956). Indeed, across all these languages, those nouns that are count nouns usually have more human, animate, and discrete referents than those nouns which are mass nouns (Lucy 1992; Whorf 1956). And finally, one may focus on the historical, cognitive-linguistic, and political-economic conditions for (and consequences of) diverse systems of utilities, units, and numbers.

14. Kockelman (in press b, c, d) theorizes such embedded semiotic processes in a compatible framework, such that one can use a semiotic stance to analyze the commoditization of processes as complicated as personhood, identity, and memory.

15. This approach has its roots in the work of Varro and Goffman (Kockelman 2004).

16. Turning from modern consumer commodities (such as personal computers) to 19th century productive commodities (such as heavy machinery), the history of capital is, in part, characterized by a movement—from simple cooperation, through manufacture, to industry—whereby each laborer gets less and less control, less and less composition, and less and less commitment over any piece of the labor-process (Marx 1967:296–475). In part, this is because control, composition, and commitment is determined by the capitalist rather than the proletariat (and, indeed, by capitalism rather than the capitalist); in part, this is because any piece of the labor process involves so many laborers that the ensemble of laborers constitutes a single controller, composer, and committer; in part, this is because the labor process becomes so spread out in space and stretched out in time (e.g., detail work); and in part, this is because the forces of production gain more and more control, composition, and commitment. (Indeed, laborers merely control means they did not compose toward ends they did not commit to. And even control becomes more and more circumscribed: rather than having a say in where and when a means is wielded for an end, they are forced to undertake their task whenever a coworker, foreman, or machine requires it.) To some extent, then, the movement described in the fourth part of *Capital* (which treats the creation of relative surplus value via the intensification of the productivity of labor) is one of laborers having less and less control, composition, and commitment—becoming more like objects while the technologies they work with become more and more like subjects.

17. These three categories differ, then, in regard to the range of future possibilities open to each: means in themselves can be used to produce any number of different use-values (*langue* can be realized in an infinite number of *paroles*, which is another way to phrase von Humboldt's insight: infinite ends with finite means); means toward ends can be used to produce a limited number of different use-values (a shuttle helps in the weaving of cloth, but not much else); and ends in themselves can only be used up (a bed does not play a role in the production of some other use-value). Moreover, from the standpoint of abstract labor (and value) rather than concrete labor (and use-value), these three categories are motivated relative to another framework (Marx 1967:181–203): use-values that are means in themselves *create* value (when exercised); use-values that are means toward other use-values as ends *transform* value (when wielded); and use-values that are ends in themselves *destroy* value (when consumed). (While all three of these processes may be called 'consumption' in the wide sense of this term, one *exercises* means in themselves, one *wields* means toward ends, and one *consumes*—in the narrow sense—ends in themselves.) In short, as one moves from creation, through transformation, to destruction, one also moves from relative freedom (of many open futures) to relative constraint (of a single closed past); from all the possible things that a given quantity of labor-power could have created to the single thing that it did create; from all that could have been signified to the sign that was finally expressed.

18. Such divergences may be considered failings of political economy (e.g., the matching of supply and demand, the distribution of resources, and so forth) as much as sins of religious morality (the opprobrium directed at emotions like jealousy, false gods, and the like). And such questions can be asked of a community as easily as of an individual: not just does Tom need

what he wants, and have what he needs; but do 'we' (whoever this we may be) need what we want and have what we need. Thus, whether such categories overlap or diverge may be due to a patriarch's management of his *oikos* as much as a state's management of its economy.

19. Finally, it should be stressed that there are those theorists like Hobbes and Lacan who think that desire is limitless by nature; and there are those theorists like Aristotle and Marx who think that such desire without limit is really a problem that is specific to exchange value (or quantity), and hence is a problem that is particular to capitalist economies. Hence, while the first two theorists would see capitalism as merely instantiating the state of nature at the heart of modern society; the second two theorists would see the former as merely naturalizing the heart of capitalist society by reference to a putative 'state of nature.' Indeed, to be really pessimistic, a capitalist economy might be understood as an actually existing social formation that takes social constructions (or what is permitted and obligatory in *this* world) to be natural kinds (or what is possible and necessary in *any* world). In this way, members of an institution that is socio-historically specific treat the limits and demands of their institution as trans-historical (a timeless limit on what is possible, a timeless demand for what is necessary). In this way, permission and obligation, or second nature, is reified as possibility and necessity, or first nature. Reification, needless to say, usually goes hand in hand with fetishization.

20. And finally, note that any two units that measure the same dimension (e.g., Celsius and Fahrenheit) may be expressed as a linear function of each other: $F = mC + b$. Here b is the y-intercept, and essentially indicates the difference in origos for two measures; and m is the slope, and essentially indicates the difference in magnitudes for two measures. Thus, if C stands for Celsius and F stands for Fahrenheit, $m = 9/5$ and $b = 32$. Conversion is a species of interpretation.

21. It must be emphasized that the phrase *with what they measure* is very wide. In the case of iconicity, some measures have a quality in common with the utility being measured; some measures have a quality in common with the body of the one who measures; some measures have a quality in common with the world in which one measures; and so forth. For example, various units of spatial area (used for agricultural plots) turn on the amount of seed needed for sowing, the amount of time needed for weeding, or the number of families supported by the harvest (Kula 1986: ch. 6). And, in the case of certain commodities, such units may turn on the features of the producer (feet, elbow), features of the production process (swatch: magnitude of cloth fixed by size of loom), or features of the product (loaf). (Here, then, again an instigator, means, and ends distinction arises.) Others, like the foot, are originally grounded in the size of the body (of the one who measures); while the meter was originally grounded in the size of the planet (inhabited by those who measure).

It must also be emphasized that these are *relative* notions. For example, the origo of the Kelvin scale of temperature (absolute zero) is relatively more motivated than the origo of the Celsius scale of temperature (the freezing point of water): it has a property in common with, and a causal connection to, a feature of nature per se (entropy), rather than where nature interacts with biological life (water). And the origo of the cosmological scale of time (the Big Bang) is relatively more motivated than the origo of the Gregorian scale of time (the Birth of Christ). Or, for example, the magnitude of light's velocity is relatively more motivated than the magnitude of sound's velocity: the former holds anywhere in the universe (and is implicated in a large number of fundamental laws); the latter only holds in the earth's atmosphere (and is only implicated in a small number of terrestrial laws). And the temporal magnitude of a year is a relatively more motivated than the temporal magnitude of a second. Or, for example, the dimension of length is relatively more motivated than the dimension of price. And the dimension of wavelength is relatively more motivated than the dimension of color. The expression 'more motivated' means, then, that one or more of the three parameters of a unit will hold across a greater range of contexts, so far as they have properties in common with (iconicity) and causal connections to (indexicality) properties of 'nature' (which here means necessary and possible features of any world obeying physical laws of the kind studied by modern scientists).

22. All things considered, one has to hunt pretty hard to find passages like this in *Capital*. The reason being that Marx generally assumes steady-state dynamics or equilibrium conditions. It is worthwhile, however, to assume that steady-state and equilibrium are the exception, rather than the rule—and hence supply and demand questions, as well as desire and need questions, are as important in the determination of value as labor-power and means of production.

23. Peirce (1955a) examined three kinds of signs. A *qualisign* is a quality that could possibly be paired with an object. That is, any quality that is accessible to the human sensorium—and hence could be used to stand for something else (to someone). A *sinsign* is a quality that is actually paired with an object (in some event). Sometimes these are referred to as *tokens*. And a

legisign is a type of quality that must necessarily be paired with a type of object (across all events). Sometimes these are referred to as *types*. For example, in the case of utterances, a qualisign is a potential cry (say, what is conceivably utterable by a human voice); a sinsign is an actual cry (say, the interjection *ouch* uttered at a particular time and place); and a legisign is a type of cry (say, the interjection *ouch* in the abstract, or what every token of *ouch* has in common as a type). And, in the case of instruments, a qualisign is some potentially artificed entity (say, whatever could be turned out on a lathe); a sinsign is some particular artificed entity used for some function (say, one of the posts on my grandfather's bed); and a legisign is a type of artificed entity used for a type of function (say, a post on a brand of bedframe). Any sinsign that is a token of a legisign as a type may be called a *replica*. Replicas, then, are just run-of-the mill sinsigns: any utterance of the word *ouch*; any post on that brand of bedframe. And, in keeping within this Peircean framework, we might call any un-replicable or unprecedented sinsign a *singularity*—that is, any sinsign that is not a token of a type. Singularities, then, are one-of-a-kind sinsigns: Nixon's resignation speech; the gun used to kill Lincoln. (Saussure had no principled distinction between token and type. In terms of Peirce's system, Saussure's signifier and signified are really just legi-signs and legi-objects, or sound images and concepts, respectively (in the limited case of signs which are words).)

24. This singularizing aspect may be widely known or narrowly known (and hence this token value might be true for many people or a single person). It may be known at different degrees of indexical remove: through personal experience, published history, family gossip, internet hearsay, and so forth. And it may be embodied in the object with different degrees of iconic remove: Madonna's toenail (or Madonna herself) or a saint's ring (or ring finger). So called *sentimental value* is usually just person-specific token-value (grounded in biography as a personal singularity) that is out of proportion to the economic value of the commodity. And so called *auroric value* (or just 'aura') is usually just group-specific token-value (grounded in history as a cultural singularity) that is out of proportion to the economic value of the commodity (cf. Benjamin 1968:221). In short, there are many different paths whereby a token may be valued over a type in a commodity economy. While none of these change the value of a token per se, they cause people to treat the token as if it had more value than its actual value would suggest. Both processes, needless to say, lead people to engage in seemingly 'irrational' actions. In short, just as value can trump meaning, meaning can trump value. Proverbially, there are some things one just cannot price.

25. Note that, unlike most signs and interpretants, use-values and exchange-values commute: each can be the exchange-value for the other as a use-value. Most signs and interpretants, however, don't commute: an answer is an interpretant of a question, but the question is not also an interpretant of the answer. To keep the analogy between utterances and use-values more exact, one needs to stick to the realm of glossing (or intra-language metalanguage) and translation (or inter-language metalanguage). In this realm, signs and interpretants commute: *el gato* is a translation of *the cat* and *the cat* is a translation of *el gato*. And in this realm, the relative and equivalent form of value might be understood by analogy to a sign that is being glossed (or translated) and a sign that is being used to gloss (or translate). The elementary form of value is any single gloss (or translation) of a sign, and the total form of value is the set of possible glosses (or translations) of any sign. Whenever a single sign or set of signs is used to gloss (or translate) all other signs it may be likened to a *universal equivalent*. Latin, for example, once provided a universal equivalent.

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